United States Patent [19]

Nelson

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[54] **FLUID PRESSURE ACTUATED SWITCH WITH PRESTRESSED DIAPHRAGM**

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Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 18,673, March 11, 1970, abandoned.

[52] **U.S. Cl.** ..... **200/83 Y,** 200/83 B, 200/83 T

[51] **Int. Cl.** **H01h 35/34**

[58] **Field of Search** ..... 200/83 T, 83 Y, 83 R, 200/83 B

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[57] **ABSTRACT**

A fluid pressure responsive switch including a housing, a fluid inlet in the housing, a partition member in the housing, a first diaphragm effectively positioned between the fluid inlet and the partition member to define a first chamber between the partition member and the first diaphragm, a switch member on the housing, a second diaphragm effectively positioned between the partition member and the switch member and defining a second chamber between the partition member and the second diaphragm, a plurality of apertures in the partition member for effecting communication between the first and second chambers, a single flapper valve member attached to the partition for normally preventing communication between the first and second chambers, said first diaphragm being deflected upon the sensing of fluid pressure from an external source by said first diaphragm to cause fluid to be moved from said first chamber to said second chamber through said plurality of apertures, and bleed aperture means in the partition member for permitting bleeding of fluid from the second chamber to said first chamber after said external fluid pressure is no longer sensed and said flapper valve member is closed, said second diaphragm actuating said switch means upon the movement of fluid into said second chamber. The first diaphragm can be prestressed as desired during fabrication so as to vary the sensitivity of the switch.

The present invention relates to an improved fluid pressure actuated switch and more particularly to a switch of this type for use in conjunction with laundry tubs which are located below sewer line level, and also for use in other applications where fluid pressures are to be measured.

8 Claims, 6 Drawing Figures